

APPENDIX 2

General Requirements for Plans of Operations Included in Alternative 3

Granite Creek Watershed Mining Project

General Requirements for Plans of Operations Included in Alternative 3

Requirements for Protection of Surface Resources

G1. In accordance with 36 CFR §228.4(d), the operator will submit a supplement to a Plan of Operations for any ground-disturbing operations not specifically covered within the initial Plan. Any supplemental plan shall be subject to approval by the authorized officer in the same manner as the initial plan (36CFR §228.5(c)).

G2. Prior to approval of the Plan of Operations, the operator will furnish a reclamation bond (36CFR §228.13(a)). The bond will be calculated based on site-specific conditions addressing the resource concerns listed in 36CFR §228.8(g), *Reclamation*. The bond shall also cover the removal of all equipment and improvements authorized in the plan, or any subsequent supplements or modifications to the plan. The bond amount may be adjusted during the term of this proposed plan of operations in response to changes in the operations or to changes in the economy.

G3. Operations shall be conducted to prevent damage to historic properties or objects of antiquity protected by American Antiquities Act (16 U.S.C. 433); Section 106 of the National Historic Preservation Act of 1966, as amended; National Environmental Policy Act of 1969; American Indian Religious Freedom Act of 1978; Archaeological Resource Protection Act of 1979, as applicable in 36 CFR 261 Regulations; applicable Sections 36 CFR 800 Regulations; and other laws and various executive orders that protect cultural resources. Operator shall stop all operations and notify the Forest Service of any discovery of cultural or natural history resources and work will not continue in the area of the discovery until the properties have been evaluated and all necessary consultations are complete. Removal or destruction of historic artifacts is a violation of Federal law and as such not allowed.

Historic building that are eligible for listing or are unevaluated will be maintained as eligible by following the Secretary of Interior's guidelines for Historic Preservation and consulting with the Forest Service.

G4. Surface runoff water from off-site shall be diverted around the operating site to ensure that this runoff water does not have a negative impact on water quality. Wood, certified weed-free straw bales (See R3), silt fences, or other Forest Service approved barriers, may be used to establish a barrier along the banks to control sediment movement into the creek. If tree boles are used, the logs must be embedded so that the entire length of the bole is in contact with the ground, and the logs overlap in a parallel shingle arrangement so that sediment-laden runoff cannot escape the impounded area.

G5. During ongoing mining activities, all disturbed sites (roads, cut and fill slopes, campsites, ponds, dumps, and stockpiles) shall be maintained in a stable condition.

G6. No live trees greater than 7" diameter at breast height (4.5' from uphill side of base of tree) shall be cut without prior written approval. All live trees approved for removal shall remain on-site. Forest Service personnel will determine which trees approved for removal are merchantable. These trees will be stockpiled by the operator for Forest Service disposal, or for use during final reclamation.

Forest Service shall approve removal of snags or trees with signs of mistletoe, prior to falling. If snags greater than 12" are removed, the Forest Service shall be notified and a new snag in the same area shall be created with the approval of the Forest Service wildlife biologist.

G7. Mining equipment shall cross creeks only at pre-approved sites, as authorized by the District Ranger with FS, NMFS and USFWS mitigations, and 2012 BMPs. All fords shall be sloped and armored with rock, based on a site-specific evaluation. Bridges shall be installed so as not to result in continued sediment delivery to the stream, and shall be removed upon final cessation of mining operations. See project file for additional Fisheries/Aquatics direction.

G8. All use and/or construction of any structures shall be listed and authorized in the Plan of Operations or supplement (36CFR 261.10 (a)). Only structures reasonably incident and necessary for the proposed level of mining operations will be authorized (FSM 2812, and 69 Stat. 367; 30 U.S.C. 601, 603, 611-615).

G9. Snow removal on roads is not approved unless addressed in an approved Plan of Operations or subsequent modifications or supplements to the Plan of Operations.

G10. Excavations left open for more than a week shall have the sides contoured to allow wildlife to escape should they fall in.

G11. Other than seasonally, where operations have ceased for a year or more, the operator shall annually submit a written statement of intent to the District Ranger which includes the operator's intent to maintain the equipment and structures, the expected date operations will resume, and an estimate of extended duration of operations. The operator will maintain the site, equipment, and structures in a neat and safe condition during non-operating periods (36 CFR 228.10).

G12. Plan-specific buffer strips and/or silt fencing (or other materials approved by the District Ranger) between the approved operation and the channel of intermittent or perennial streams shall be of sufficient width and filtering capacity (as determined by the District Ranger) to prevent the introduction of sediment into the stream system during normal seasonal runoff events such as snowmelt or high-intensity rainstorm events.

In addition, if straw bales or silt fences are used, they will be installed with adequate support (i.e. straw bales staked into the ground, silt fences dug into the ground and with seams on stakes facing away from sediment sources) and maintained during use (i.e. fences and bales regularly checked for failure or movement, sediment removed with it accumulates to 1/3 height of silt fence or bale).

G13. All explosive handling and storage will comply with Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) requirements and Mine Safety and Health Administration (MSHA). Copies of any permits that require any improvements (storage facilities, gates, etc.) on national forest system (NFS) lands must accompany the Plan of Operation or supplemental Plan, and the improvements shall be identified within the approved Plan.

G14. Beaver dams will not be breached by the operators. If pond levels behind the dams increase to the point that there is the potential to flood the mining operation, the operator shall work with the Forest Service to install pond-level control devices.

G15. Plan-specific stream buffers for mining-related activities (as specified in Appendix 1A of the EIS) are to be undisturbed. No mining activities, storage of equipment or overburden, or vegetation removal is permitted. Driving a vehicle off an existing road within a Plan-specific stream buffer is only permitted where necessary to access the stream for mining related activities such as installation of a pump or dredge put in, as long as there is no significant impact to surface resources, and is consistent with 2012 BMPs. For requirements specific to use of fords, see G7.

G16. If new active goshawk nests are discovered, a 30-acre nest area will be delineated by district wildlife personnel around active goshawk nest sites, and a seasonal restriction on the use of heavy equipment would be recommended in the immediate vicinity of the nests to reduce disturbance to goshawks during courtship and nesting. Nest areas will be deferred from tree removal with the exception of snags cut to address hazards around work areas. An active nest site is one that has been used for nesting within the previous five years. Failure to monitor a nest site does not equate to inactive status.

If a new active goshawk nest is discovered after a Plan of Operation is approved, the Forest would initiate a Plan modification process per (CFR 228.4e) to determine what reasonable additional restrictions could be added to the Plan to mitigate this unanticipated impact.

G17. If unexpected heritage resources are encountered during project implementation, these resources will be protected from disturbance and evaluated for eligibility for inclusion on the National Register of Historic Places. Significant resources will be avoided or mitigated as described below. In accordance with 36 CFR 800 and Section 106 of the National Historic Preservation Act (1966), all unevaluated sites will be avoided pending determination of eligibility for listing on the National Register of Historic Places by the Forest Service and consultation with the Oregon State Historic Preservation Office. All eligible and unevaluated sites will be protected throughout the life of the project if possible. Protection of these sites, in most cases, shall be accomplished through avoidance by ground-disturbing activities.

If protection or avoidance of significant heritage resources is not possible, mitigation measures will be developed in consultation with the Forest Service and the Oregon State Historic Preservation Office and in some cases, the Advisory Council on Historic Preservation.

G18. Approval of this plan does not relieve the operator from complying with all applicable Federal, State, or County laws or regulations. Any regulations/laws referenced herein are for emphases only and not intended to cover all regulations that may apply to this operation.

G19. Copies of any permits/certifications issued by other regulatory agencies related to mining operations on NFS lands shall be submitted to the authorized officer. In some cases this may be required prior to approval of the Plan. (CWA §401(a)(1). BMP Min-8)

G20. Extended occupancy (longer than allowed under the Forest Order) must be incidental to and necessary for the level of proposed mining operation and authorized in the Plan of

Operations¹. No person not actively involved in the day to day operations will be authorized to stay longer than allowed under the Forest Order (ORDER NO. 2010-0616-WW-12 and Uma FO 2009-0614-UM-01) (36CFR 261.1(a) and 261.58(a).

G21. The work site and camp area will be kept clean and orderly. Litter and other non-essential mining items brought in by the operator will be removed by the operator from NFS lands and disposed of properly. Burning or burying of trash is not authorized. (36CFR 261.11 (b)(c)(d))

G22. When the operator is contemplating a sale of the claim(s) associated with their approved Plan of Operations, the claimant/operator shall notify the District Ranger. The Plan of Operations will not automatically transfer to the new owner, and the new owner must file their own notice to the Forest Service (36CFR 288.4). If a new owner wishes to submit the same Plan, additional environmental analysis may not be needed.

G23. During water drafting, mesh on hydraulic pumps must have no less than eight openings per linear inch (3.5 openings per cm). Openings must be no greater than 1/8 inch (3.2mm) along any given side. Screens should be kept in good and efficient state of repair, and water must not be withdrawn at any time that the screen is removed.

G24. At a pre-arranged meeting time and place, the Forest Service minerals administrator will inspect all equipment prior to its placement on NFS land in order to make sure that it is in working order, and there are no obvious leaks.

G25: Any existing Forest Service section corners and/or marker trees removed or damaged by the miner will be replaced at the miner's expense.

Hazardous Materials

H1. No processing chemicals shall be used in the process to extract ore unless authorized in a Plan of Operations. Authority will be in conjunction with Oregon DEQ permitting regulations.

H2. No chemical flocculent or surfactant shall be used in ponds unless it is EPA approved and shown to be safe for aquatic species (amphibians).

H3. Operators shall be required to have a lined containment vault under hazardous material storage barrels.

H4. Before commencing operations, operator shall provide a Hazardous Substances Plan. The Plan must include, but is not limited to, hazardous substances (as defined by 29 CFR 1910.120) to be used in the mining operation and identification of operators' representatives responsible for supervising initial containment action for releases and, if required by Forest Service, subsequent cleanup. Material Safety Data Sheets (MSDSs) for all hazardous materials used will be available at the mining operation and all such materials shall be labeled in accordance with

¹ 1.Be reasonably incident - Reasonably incident means the statutory standard "prospecting, mining, or processing operations and uses reasonably incident thereto" (30 U.S.C. 612). It is a shortened version of the statutory standard. It includes those actions or expenditures of labor and resources by a person of ordinary prudence to prospect, explore, define, develop, mine, or benefituate a valuable mineral deposit using methods, structures, and equipment appropriate to the geological terrain, mineral deposit, and stage of development and reasonably related activities.

Federal and State regulations. The Plan should show operator's procedures for reporting and responding to a release. The current names and telephone numbers of those to be notified and their responsibilities should be listed. The Forest's Emergency Response Coordinator (name shall be supplied by the Forest service) should be included as a person to be notified early. The Plan should also list the appropriate hazardous substance response services to be employed for release assessment and cleanup actions.

H5. Spill kits shall be available on site in case of an accidental spill. Spill kits (minimum size 40 gallons) must be able to absorb and contain oils, coolants, solvents and other materials in the event of a spill.

H6. Petroleum products or other hazardous substances shall not be released into land, rivers, streams, impoundments, or natural or man-made channels leading thereto. Storage of fuel, fueling of equipment or routine maintenance shall require the use of oil-absorbing mats, and storage would occur outside the Plan-specific stream buffers for mining-related activities (as specified in Appendix 1A of the EIS). Oil-absorbing mats are required under all stationary equipment to prevent leaking or spilled petroleum base products from contaminating soil and water resources. Such material will be furnished by operator and approved by the District Ranger before use.

H7. Burning of spilled substances shall not occur unless authorized by the District Ranger and Oregon DEQ.

H8. All equipment shall be checked for fluid leaks on a daily basis. All equipment operating on mining operation will be in good repair and shall be free from leakage of lubricants, fuel, coolants, and hydraulic fluid. Servicing of all equipment shall be done only in the areas approved by the District Ranger as part of the Plan of Operations. Unless otherwise agreed, operator shall properly dispose of all contaminated soil, vegetation, debris, vehicle oil filters (drained of free-flowing oil), oily rags, and waste oil in accordance with local, State, and Federal regulations off NFS lands and shall transport such substances in accordance with State and Federal regulations.

H9. Operator shall immediately implement the Hazardous Substances Plan, notifying appropriate agencies, including the Forest Service, concerning all spills, leaks, or other releases of petroleum products or other hazardous substances (as defined in (29 CFR 1910.1200 and/or releases) on or in the vicinity of all NFS lands which are caused by operator's employees, directly or indirectly, as a result of mining operations. Plans of Operations must display storage locations for hazardous substances.

H10. In addition to taking initial action to contain all releases, operator shall be held liable for all damages and costs of additional labor, subsistence, equipment, supplies, and transportation deemed necessary by the government for the containment and cleanup of petroleum products or other hazardous substances.

H11. If the total oil or oil products storage exceeds 1,320 gallons or if any single container exceeds a capacity of 660 gallons, operator shall prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan. Such plan shall meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer. This plan shall include notification of appropriate State and local officials, the Forest Service, and other appropriate agencies.

H12. It is the intent that all releases shall be removed from NFS lands and disposed of according to above regulations. *De minimus* (trifling) releases are occasional drips that fall from operating equipment. Routine systematic releases are drips that become increasingly worse and/or operator takes no preventative action to curtail releases. The Forest Service is not expected to enforce this provision as to *de minimus* releases, but routine systematic releases warrant enforcement.

Fire Protection and Suppression Requirements

Specific fire prevention measures are listed below and shall be effective for the period of April 1 to October 31 of each year. The Forest Service may change the dates of said period by advance written notice if justified by unusual weather or other conditions. Required tools and equipment shall be kept currently in serviceable condition and immediately available for initial attack on fires.

Compliance with State Forest Laws - Listing of specific fire precautionary measures herein is not intended to relieve the operator in any way from compliance with the State Fire Laws covering fire prevention and suppression equipment, applicable to operations under this Plan of Operations. These requirements meet the intent of 36 CFR 228.11.

F1. Fire Plan – Before starting any operations, the mine operator shall prepare a fire plan, in cooperation with the district minerals administrator, providing for the prevention, notification and control of fires in the project area.

F2. Substitute Measures - The District Ranger may by written notice authorize substitute measures or equipment or may waive specific requirements during periods of low fire danger.

F3. Emergency Measures - The Forest Service may require emergency measures, including the necessary shutting down of equipment or portions of operations in the mining claim during periods of fire emergency created by hazardous climatic conditions.

F4. Fire Control - The mine operator shall, independently and in cooperation with the WWNF, take all reasonable action to prevent and suppress fires on the mining claim. Independent initial action shall be prompt and shall include the use of all personnel and equipment available in the mining claim.

F5. Fire Precautions

1) **Smoking and Open Fires** - Smoking and fires shall be permitted only at the option of the mine operator. Campfires shall be on mineral soil within a fire ring (either rock or metal) and shall not be left unattended. Unless restricted by State Law or Federal Regulation, smoking shall be permitted only in such portions of the mining claim that are free of flammable material. Smokers shall extinguish and press out all burning material in a closed container or in mineral soil before leaving the cleared area.

2) **Fire Extinguishers and Equipment on Trucks, Tractors, etc.** - All power-driven equipment operated on NFS lands, except portable fire pumps, shall be equipped with one fire extinguisher having a UL rating of at least 5 BC, and one "D" handled or long-handled, round-point shovel size "0" or larger. In addition, each motor patrol, truck, and passenger-carrying vehicle shall be

equipped with a double-bit axe or Pulaski, 3½ pounds or larger. Equipment shall be kept in a serviceable condition and shall be readily available.

3) Power Saws - Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight and one long-handled, round-point shovel, size "0" or larger. The extinguisher shall be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within 1 minute.

4) Spark Arresters and Mufflers - Each internal combustion engine shall be equipped with a spark arrester meeting either (1) USDA Forest Service Standard 5100-1a, or (2) appropriate Society of Automotive Engineers (SAE) recommended practice J335(b) and J350(a) as now or hereafter amended unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.

(b) A passenger-carrying vehicle or light truck or medium truck up to 40,000 GVW used on roads and equipped with a factory-designed muffler complete with baffles and an exhaust system in good working condition.

(c) A heavy duty truck, such as a dump or log truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

F6. The operator shall observe all the requirements of the Industrial Fire Precaution Level. It is the responsibility of the operator to obtain the Industrial Fire Precaution Level daily. The Industrial Fire Precaution Level may be obtained daily from the Forest Service at approximately 4PM to 6PM, local time. (*R6-FS-6300-51 Regional Forester Order No. 3*).

F7. Fire Security - When the Industrial Fire Precautions Level is "I" or higher, unless a waiver is granted, the operator shall designate a person who shall perform fire security services listed below on the mining claim and vicinity. The designated person shall be capable of operating the operator's communications and firefighting equipment specified in F-6b, and of directing the activities of the operator's personnel on forest fires. In lieu of having the designated person perform the required supervisory duties, the operator may provide another person meeting the qualifications stated above to direct the activities of the operator's personnel and equipment during all firefighting activities.

Services described shall be for at least 1 hour from the time the operator's operations are shut down. For the purposes of this provision, personnel servicing equipment and their vehicles who are not engaged in cutting or welding metal are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected.

Whenever the Industrial Fire Precaution Level is "II" or greater, a fire security person equipped with a long-handled, round point, Number "0" or larger, shovel, and a five-gallon backpack pump can filled with water will stay at the location of a blast for 1 hour after blasting is done. Blasting

may be suspended by Forest Service in writing, in an area of high rate of spread and resistance to control.

F8. Surface blasting - Fuses shall not be used for blasting. Explosive cords shall not be used without written Forest Service permission, which may specify conditions under which such explosives may be used and precautions to be taken.

Invasive Species and Noxious Weeds

IS1. The minerals administrator will provide the mine operator with a noxious weed identification book and a map of known noxious weed locations on or near the proposed activity area so that the operator is able to recognize the presence of noxious weeds.

IS2. Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism, require the cleaning of all equipment (e.g. heavy equipment, pumps, ATVs) prior to entering NFS lands, and will comply with regional and forest-specific invasive plant management plans, and the 2011 Region 6 Aquatics Invasive Species Management Plan.

The Forest Service minerals administrator will inspect all equipment prior to its placement on NFS land to make sure that it has been cleaned for invasive species. Mining equipment already on NFS land will be cleaned by the operator, to remove invasive species at the current work site before moving to another location.

IS3. Use only gravel, fill, sand, and rock that is judged to be weed free by Forest Service weed specialists.

IS4. The presence of any previously unknown invasive species infestations (aquatic or terrestrial) should be reported to the Forest Service Minerals Administrator as soon as possible. Upon notification, Forest Service employees shall initiate a weed inventory at the reported site.

IS5. All noxious weed infestations will be avoided during times of seed production. If avoidance is not feasible, then mechanical treatment (pulling, chopping, weed eating, etc.) will occur prior to any ground disturbing activities. Treatment of these areas will, at the minimum, remove all flower heads prior to seed set.

IS6. When invasive plants begin to grow on stockpiled soil, mechanical treatment will occur to prevent seed set. Mechanical treatment (like pulling, chopping, etc.) will occur as flowers begin to form. The resulting organic matter may be left on site if removed prior to seed set.

Lode Mines

L1. When water from an adit is used in the mining process, it shall be piped or trenched around the mine dump to a settling pond for use. Certified weed-free straw bales and filter cloth will also be used to minimize sediment if determined necessary by the District Ranger.

L2. Settling ponds shall not be built on mine dumps.

L3. Prior to the beginning of operations, the operator(s) will test any adit discharge for compliance with the CWA and Safe Drinking Water Act, Oregon State and the EPA, at an approved testing facility. As conditions change during operations, the operator(s) will periodically test the discharge to see if water chemistry has changed (e.g. heavy metals or sulfides). Upon completion of the operations, a final water quality test of the adit discharge will be completed.

L4. When processing is conducted on Forest Service land, tailings from the first run will need to be tested at an approved testing facility to see if they have the potential to release acidity or other contaminants. (See EPA standards and CWA for guidelines). Testing of the waste rock may be required based on the type of rock present. Additional testing will be required throughout the life of the operation as conditions change. Upon completion of the operations, a final test of the tailings and waste rock will be required before the Plan can be closed out. Reclamation procedures may be modified, depending on the results of the testing.

L5. When testing of adit discharge, tailings or waste rock, **a copy of the test results will be sent directly from the testing facility to the District Ranger.** Should the results exceed EPA and ODEQ's standards, the operator must address this issue prior to continuing this portion of the operation (36CFR 261.11 (c)). A modification to the Plan may be required as per direction found in 36CFR 228.4 (e).

L6. Water and winter run off will be diverted around tailings and waste rock piles.

L7. When opening a collapsed adit portal, the surface soils will be set aside for later closure of the adit or use as top soil for reclamation.

L8. Should water begin to discharge from previously dry adits, the District Ranger will be notified immediately and L3 and L5 would apply.

L9. Tailings, waste rock, and soil piles will be placed in separate /locations. Tailings and waste rock piles will be placed a sufficient distance from any nearby surface waters such that no surface discharge from the waste rock or tailings will reach the waters.

L10. The operator will be held financially responsible for containing/controlling tailings or waste rock that exceeds EPA standards for human health and safety. The operator(s)/owners(s) will be held responsible until the tailings and waste rock are in a stable, non-leaching condition.

L11. Portal discharges resulting from underground development conducted during the life of the approved Plan of Operations must meet State standards for water quality for the receiving stream. The point of compliance shall be at the point of entry into Waters of the State. If water quality standards are exceeded, then the operator(s) shall comply with OAR 340-041-0004. If treatment systems are needed to meet State Water Quality standards, a supplemental plan must be submitted to the District Ranger for approval prior to implementation.

L12. Decontamination procedures for White Nose Syndrome "*Geomyces destructans*" will be required for all equipment leaving or coming into an adit site. See project file for procedures as of Jan 25, 2013. The most current procedures can be found at the following web site or through local State or Federal Fish and Wildlife office. <http://www.whitenosesyndrome.org/topics/decontamination>

Placer Mines

P1. When mining or processing old lode tailings or waste rock, then the following Lode requirements apply: L1-6, L8-10, L11.

Reclamation Requirements

Ongoing Reclamation

R1. Prior to reclamation, the operator will coordinate with the Forest Service on reclamation activities for things such as, but not limited to, placement of topsoil, use of slash (e.g. scattering on the surface, burying to create an organic layer), seed mixes and seeding rates, and means of accelerating vegetative recovery and soil development.

R2. Reclamation shall be ongoing to ensure stabilization of the area and so that a minimum amount of ground will be open at any time.

R3. Use certified weed-free straw for all projects, conducted or authorized by the Forest Service, on NFS lands. If State certified straw is not available, use sources certified to be weed free using the North American Weed Free Forage Program Standards or a similar certification process.

R4. All mining excavations, **not approved for winter hold over**, will be refilled and reclaimed to normal contours before seasonal shutdown of each year. This shall include refilling of the excavations, re-vegetating to avoid active erosion, and mulching with certified weed-free straw.

R5. All mining excavations, **approved for winter hold over**, shall be stabilized prior to seasonal shutdowns or extended periods of inactivity. This shall be accomplished before any equipment is removed. Stabilization includes, but is not limited to, the following: covering the stockpiled top soil and other areas of bare soil with certified weed-free straw, sloping pond sides and trenches, and installing sediment barriers in disturbed areas such as roads or mined area to prevent soil from reaching stream channels.

R6. Topsoil, where it exists, shall be scraped off the areas to be excavated and stockpiled for later reclamation. All material shall be stockpiled in the order that it was excavated and used to refill the excavation in that order.

R7. At the end of each operating season, areas of stockpiled soil (including silt removed from placer mining settling ponds, or removed topsoil) will be covered with at least 3 inches of certified weed-free straw.

R8. General specifications for revegetation, such as seed mixes, shrub types, and the rate of application or planting densities, will be developed by the time of Operating Plan approval. Actual seed mixes, shrub types, and the rate of application or planting densities will be finalized at the time reclamation begins in coordination with the Forest Service.

R9. Re-vegetated areas will initially be inspected for stocking and planting methods and then evaluated annually by the Forest Service to determine if the site's original or surrounding densities have been maintained. Year to year improvement must occur in order for that portion of the bond, held for re-vegetation, to be returned. Annual improvement must show establishment of desired species and spread, equal to or greater than 10% each year such that by the end of year 3 there is at least 30% establishment in order to meet the objectives of this requirement (*W-W LMP pg. 4-25*)(*UMA LMP 4-70 & 80*)(*BMP Min-8*).

R10. The operator must follow the requirements of the State of Oregon 600 permit (General Water Pollution Control Facility Permit issued pursuant to ORS 468B.050) as it applies to use of ponds as settling ponds. Water shall be contained in settling ponds with no sediment discharge allowed. All ponds approved to be left open during seasonal shutdown shall be left dry or at the normal water table. The mine operator shall have certified weed-free straw bales or waddles or other material available on-site, that are approved by the Forest Service, to be used as a filtering agent should overtopping of ponds or significant soil movement from storm events occur.

Final Reclamation

R11. All mined areas included in Plan of Operation activities shall be returned to natural or near-natural contours; if located on the hillside, the areas will be benched for stability.

R12. Following re-contouring of the ground, the ground will be seeded with native seed species or locally appropriate native trees and shrubs, and certified weed-free straw shall be scattered over the reclaimed area.

R13. Mine access roads, landings, and terrace areas created under the mining operation shall scarified to a depth of 2 to 4 inches, seeded with seed certified free of noxious weeds, and covered with certified weed-free straw and wood, if available, to discourage vehicle access.

R14. Exposed cutbanks created by the operator (excluding streambanks and terrace banks) shall be sloped to a 2:1 slope to minimize soil movement wherever testing in these banks has taken place.

R15. In order to determine which Plan-specific ponds should be reclaimed or retained, and whether modifications are necessary for the retained ponds, refer to Appendix 7, Alternative 3.

Pond Reclamation: Where ponds are identified for reclamation, the pond shall be backfilled, re-contoured and seeded as specified in R12.

Pond Retention AND modification required: Where existing or newly constructed ponds are identified for retention and modification, the operator should slope sides from 0-18" deep along the north, west, and east edges. This sloped portion of the pond should be a minimum of 3 feet in width. These specifications were developed to provide spotted frog breeding habitat. Species of vegetation planted around the retained ponds will reflect the native species composition for the area. Pre-existing ponds that are occupied/suitable for amphibians shall be left for amphibian habitat.

Pond Retention BUT no modification required: Leave pond as is.

R16. After seeding, the mine operator will distribute certified weed-free straw, 3 inches thick over approximately two-thirds of the area in mid to late fall leaving patchy open areas.

R17. All stockpiled topsoil and/or other suitable fines, such as silt from the settling ponds, shall be spread over disturbed areas in an ongoing restoration program after consultation with the Forest Service as to placement of fines and/or topsoil, and will be consistent with the approved Plan of Operations and reclamation standards included in the WWNF Forest Plan and UNF Forest Plan (*WWNF Forest Plan, 4-25 #27-29, UNF Forest Plan(4-80 #2)*)

R18. Final reclamation will be evaluated for success, with consideration given to variables such as the time of the year, how much topsoil was available, the density of the existing ground cover, and if native plants are establishing, and is consistent with the reclamation standards included in the WWNF Forest Plan (*Forest Plan, 4-25 #27-29 and Umatilla NF Forest Plan (4-70 #1-6, and 4-81).*)

Requirements for Working in Wetlands and Floodplains

These requirements, along with the reclamation requirements above, are included to meet the intent of Executive Order 11990 – Protection of Wetlands, and Executive Order 11988 – Protection of Floodplains

W1. Mining in the floodplain or wetlands will be accomplished by placing equipment in dry areas located outside the floodplain or wetland. The wet areas and floodplain areas will be mined and reclaimed after July 1. Seasonal reclamation shall be accomplished by late fall in time to allow for the areas to revegetate and stabilize before winter (see R8 and R9 for specifications regarding revegetation).

W2. Where wetland vegetation is approved to be removed, it shall be kept wet by placing it in the ponds for up to 14 days while the area is being mined and reclaimed. The vegetation shall be replaced in the riparian area to approximately the original density and monitored for success for 3 years as described in R9 above. The success of final reclamation shall be evaluated as stated in R18 above.

W3. The size, location and function of wetlands after reclamation shall be similar to what now exists

Road-related Requirements (Z-Requirements)

Definitions:

Open road: Road designated for motorized travel on a Motor Vehicle Use Map and/or designated as a National Forest System Road Operating above a Maintenance Level 1. This includes roads seasonally open.

Closed road: Road listed in a forest transportation atlas and a National Forest System Road operating at a Maintenance Level 1 and/or not shown on a Motor Vehicle Use Map.

Temporary access road: Roads created by the operator whether by blading or continued travel. A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas. These roads are not necessary for long-term resource management and will be decommissioned after use. The level of decommissioning will be specified in the operating plan. Temporary access roads are given a number in the operating plans for tracking and mapping purposes. An “M” number is an operator-created road that the operator is responsible for decommissioning and/or obliterating once mining activity is complete. An “E” number is an existing road designated for use by the operator, and the operator is not required to decommission and/or obliterate once mining activity is complete.

Decommissioned road: A road that was listed in a forest transportation atlas and has had an action taken to eliminate use of the road, eliminate resource protection concerns, has no deferred maintenance needs, and requires no further maintenance. These roads have a route status of “decommissioned”. If specified in the operating plan, these roads may be utilized as temporary access roads, in lieu of new ground-disturbing construction.

Requirements:

The following requirements apply only during the dry season window (generally July 1 to October 1). During the dry season window, it would be unusual to get enough precipitation over a duration long enough to cause significant road damage. Outside the dry season window, weather and road conditions become variable daily. Operators working outside this window will be required to consult with the Forest Service to determine if special road Best Management Practices (BMPs) are required. The type of special BMPs required will vary and may range from timing of vehicular passage to full construction of erosion or drainage control structures

The operator will be responsible for acquiring state, county and or local permits and activities shall be in accordance with the current edition of the National Forest Commercial Road Use Rules for hauling of mining equipment or excavated materials.

Z1. Use of closed and temporary access roads will be incidental to mining operations.

Z2. Temporary roads proposed in the Plan of Operations will be flagged by the operator and ground verified by the Forest Service prior to creation. The creation of these temporary roads should be with minimal impact to the environment, fit the terrain, limit the need for excavation by following natural contours, favor lower slope routes, and be consistent with other environmental protections.

Z3. Prior to use of existing closed or temporary access roads identified for use in the plan of operations, danger trees shall be identified by certified Forest Service personnel. The operator is responsible for felling of the danger trees and clearing any debris from the road prior to use. Danger trees shall be left on the ground in a stable manner, so as not to roll onto the road or encroach the traveled way, and left for wildlife purposes or dealt with as stated in the G6 requirement.

Z4. Existing closed and temporary access roads shall have brush and trees removed to the extent necessary to accommodate the movement of the operator’s equipment and vehicles only.

All stumps and brush in the road bed to be removed shall be flush cut no more than 2 inches above the ground. Grubbing of roots and stumps shall only be allowed with prior written approval from the Forest Service. To minimize the potential for road damage, removal of trees and brush is limited to the dry season.

Z5. Disposal of trees/brush removed from proposed and existing closed and temporary access shall be accomplished in one of the following ways, based on site-specific characteristics determined in writing by the Forest Service: 1) Vegetation shall be scattered on the downhill side of the road, and shall not be placed in draws, catch basins, ditch lines, or stream channels. 2) Vegetation shall be moved to a Forest Service designated site, and left in piles of a size approved by the Forest Service.

Z6. The operator shall be responsible for reducing water flow concentrations resulting in road erosion on closed and temporary access roads. Traveled way maintenance activity shall be limited to the dry season to minimize the potential for road damage. Minor road work, such as slough removal, shall be in permitted areas where the fill slope materials have settled over time. Minor blading and shaping of the road shall be permitted to remove minor deformities (i.e. boulders, holes, gullies) in travel ways that impede the passage of high-clearance vehicles. A rocky-based material shall be applied to wet (i.e. seep areas) or eroded areas, as prescribed by the Forest Service, in order to minimize or prevent gullying of the road, concentration of flow, or rutting and pooling of water. All sources of rocky material shall be approved by the Forest Service in writing prior to application.

Z7. All closed roads and temporary access roads used by the operator shall be prepared for seasonal runoff during inactive periods (over winter). Water bars shall be constructed to provide effective surface drainage relief.

Z8. During the use and maintenance of all closed or temporary access roads, surface drainage and erosion control features or structures shall be maintained, repaired or installed. This work shall be accomplished in a manner to effectively control and/or prevent water concentrations upon the road bed and prevent or eliminate the movement of sediment from any activity or source from entering into streams. Examples of erosion control and drainage structures, and those to be maintained, repaired, or installed include silt fences, erosion control blankets, earthen berms, sediment catch basins, drain dips, armored grade sags, water bars and corrugated metal pipes. New installation of these structures shall be agreed upon by the Forest Service prior to installation.

The above structures shall be positioned to optimize the use of existing filter strips (vegetated area of land between road/sediment sources and the stream, capable of providing filtering and confinement, reducing water velocity to prevent transport of sediment into the stream). All drainage and erosion control structures shall be maintained to function during actual use and throughout periods of seasonal non-use. Additional measures shall be employed, if necessary, to counteract additional drainage and erosion needs during traditional wet seasons. The additional structures shall be installed prior to a seasonal shut down. The Forest Service may direct additional measures be implemented prior to high-intensity drainage periods (i.e. winter, spring snow melt and rain).

Z9. Seasonal wet areas in access roads shall be avoided until they have dried up, unless otherwise approved in writing by the Forest Service. If a seasonal wet area must be crossed prior to drying up, the crossing site will be designed to permit continued subsurface diffuse flow

(i.e. French drain) and prevent rutting or channel development. The design and materials to be used shall be reviewed and approved by the Forest Service in writing prior to construction.

Z10. Crossing of permanent wetlands to access a site will be avoided.

Z11. Crossing a channel with intermittent flow to access mining operations shall occur only at Forest Service approved locations. Additional measures (i.e., culvert, ford, etc.) may be required if determined necessary by the Forest Service.

Z12. During seasonal shutdowns, to restrict vehicular travel, the operator is responsible for closing roads not designated as open and all temporary access roads as identified in the Plan of Operations.

Z13. Proposed gate location as identified in the Plan of Operations shall be approved by the Forest Service District Ranger before installation. The gate shall be constructed according to the National Forest specifications (project file).

Z14. Temporary access roads that have a road number ending with an "M", shall be decommissioned or hydrologically obliterated by the operator (as defined below) when mining activities are completed. Methods are to be approved in writing by the Forest Service district ranger prior to decommissioning or hydrologically obliterating.

Decommission: To remove those elements of a road that reroute hill slope drainage and present slope stability hazards.

Hydrological obliteration: The reclamation and or restoration of land to resource production from that of a transportation facility. The roadbed is treated so that it no longer functions as a road. The wheel tracks or pathway is no longer continuous or suitable for traffic. This may involve some of the following activities: Closing entrances, scarifying road surfaces, decompacting (sub soiling) to establish vegetation and reduce run-off, seeding, partial to full restoration of the stream channel crossings by removing culverts.

Monitoring

M1: The operator will visually evaluate the clarity of the creek water upstream and downstream of their operation at a minimum prior to beginning work that day and after ceasing operations that day. If there is a change in water clarity below the mining site, the operation shall cease work until the cause of the sediment input is determined by the Forest Service (36CFR 261.11 (c)). Notification of the Forest Service of the change in water quality shall occur no later than the end of the first normal working day after the observation has been made.